

Interstate Environmental Commission

2012 Annual Report



Who we are

The Interstate Environmental Commission is a tri-state air and water pollution control agency serving the states of New York, New Jersey, and Connecticut. The Commission and its area of jurisdiction – the Interstate Environmental District – were established in 1936 under a compact between New York and New Jersey, with the consent of Congress. The state of Connecticut joined the compact in 1941.

Our District contains no landmass, but is comprised entirely of estuarine waterbodies covering nearly 797 square miles. Using an imaginary reference point in the Verrazano Narrows, the District extends north to Bear Mountain, **NY**; south to the Navesink River, **NJ**; northeast to New Haven Harbor, **CT**; east to Fire Island Inlet, **NY**; and west around Staten Island and into Newark Bay.

For more than 75 years, we have served as a central figure in water quality issues in our District, facilitating information exchange and issue resolution without the constraint of state jurisdictional boundaries.

This document serves as a summary of our progress from January through December 2012.



Ensuring compliance at wastewater treatment plants

We have an ongoing program inspecting wastewater treatment facilities in our District, as well as sampling effluent from those facilities. The purpose of these investigations is to prevent water pollution by ensuring compliance with IEC and state regulations. In many instances, our inspection may have been the only regulatory sampling performed at that facility during the entire year.



The Stamford (CT) Water Pollution Control Facility

To ensure that priorities are met and duplication of work is avoided, these facilities are selected in coordination with the environmental agencies of our member states. There are currently 71 such facilities in our District.

These inspections, which are unannounced, include an interview with plant supervisors to review major treatment processes, equipment conditions, short- or long-term equipment maintenance or facility construction issues, staffing, flow capacity issues, and complaints. Hourly, staff measure and record effluent pH, temperature, residual chlorine, and flow. They also visually inspect both the effluent and the receiving waters, looking for evidence of oil and grease, floating solids, scum, foam, and discoloration. We also collect samples from the plant's final disinfected effluent, which we analyze in our lab for fecal coliform, biological oxygen demand, total suspended solids, chlorides, turbidity, and settleable solids.

In 2012, we performed 65 inspections at 49 wastewater treatment plants in **NY**, **NJ**, and **CT**. We also inspected 6 industrial facilities in the District. All inspection



reports, including the analytical results, were transmitted to the facility, state environmental agencies, and **USEPA**. Any violations were reported to the appropriate state agency for possible enforcement action.

Ensuring data of the highest quality

Our laboratory, which traces its roots to the 1940s, has been located on the campus of the College of Staten Island since 1993. Through it, we provide data of the highest quality for such analytes as bacteria, minerals, metals, and other critical water variables.



An IEC chemist analyzes water samples

In 2012, we continued our participation in the accreditation programs of our member states through successful participation in proficiency test studies and on-site assessments. As a result, our laboratory's National Environmental Laboratory Accreditation Program certification continues through the **NY** State Department of Health and the **NJ** Department of Environmental Protection. In addition, our laboratory's Approved Environmental Laboratory certification was renewed by the **CT** Department of Public Health. As such, our laboratory continues to be recognized by the Commission's member states as a nationally accredited environmental facility.

Communicating unplanned sewage bypasses

IEC staff chair the Regional Bypass Workgroup, which was formed in 1997 to help prevent human contact with raw or partially treated sewage. Workgroup members commit to immediately communicating unplanned sewage bypasses to rest of the workgroup, allowing others to respond and notify the public if the sewage may affect the beaches for which they are responsible.

Members of the workgroup include the environmental and health departments of the Commission's three member states, National Park Service, **NJ** Harbor Dischargers Group, NYC Department of Environmental Protection, **USEPA**, US Food and Drug Administration, US Coast Guard, and county health officials.

In May, just prior to the public bathing season, we convened a meeting of the members to discuss bypass reporting issues as well as changing notification laws, beach closing standards, and recent bypasses. As we do each year, we tabulated all of the bypasses and continued to maintain the historic record of bypasses reported in the District.

Preventing illicit discharges

We recognize that stormwater and urban runoff have become primary water quality issues throughout the region, and we continue to conduct dry-weather investigations throughout our District for the purposes of detecting and eliminating illicit discharges.

We maintain an inventory of sewer outfalls in which we fully document whether they are discharging during dry weather. When dry weather discharges are discovered, all necessary information is forwarded to the appropriate state environmental department for mitigation. This ongoing program, formally known as the Combined Sewer Overflow and Municipal Separate Storm Sewer System Program, was established to update field inspections and protocols in accordance with the Center for Watershed Protection guidelines and state permitting requirements.



Keeping an eye on oxygen in western Long Island Sound

2012 marks the 22nd consecutive summer season that we monitored the water quality in western Long Island Sound and the upper East River. We started this in 1991 at the request of **NYSDEC** and continued in cooperation with the Long Island Sound Study.

As in previous years, our 2012 monitoring surveys focused on documenting and estimating the duration of hypoxia in western Long Island Sound and the upper East River. Waters are considered hypoxic (low in oxygen) when the concentration of dissolved oxygen concentration falls below 3 milligrams per liter. This is a concern because aquatic organisms cannot live in such an environment. The severity of hypoxia in most inshore waters varies according to the time of day, tidal cycle, and depth, as well as the water's temperature and salinity.

In 2012, we monitored weekly for 12 weeks from June 29th through September 14th. Each week, we sampled water at 22 stations (see map) and measured pH, temperature, salinity, water clarity, and dissolved oxygen.



IEC monitoring locations in Long Island Sound & the East River

On alternate weeks, we collected water samples, which we analyzed in our lab for the presence and amount of chlorophyll-*a*. Chlorophyll-*a* is a pigment in aquatic plants that scientists use to determine whether an algal bloom has occurred.

Each week, all field measurements were summarized and forwarded to the **USEPA** Long Island Sound Office, **CTDEEP** Bureau of Water Management, Nassau County Health Department, **NYSDEC** Division of Marine Resources, NYC DEP Marine Sciences Section, Westchester County Department of Health, and several volunteer monitoring groups. The full report can be found on our website: www.iec-nynjct.org.

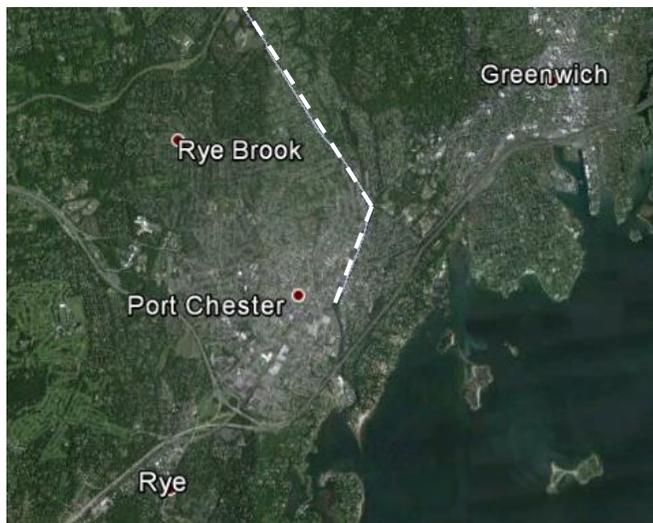
Supporting our District's estuary programs

We continued to be an active participant in the two National Estuary Programs within our District: Long Island Sound Study (LISS) and **NY-NJ** Harbor & Estuary Program (HEP) as well as the **New York** State Hudson River Estuary Program. Staff served on the Citizens Advisory Committees of HEP and LISS, the HEP Pathogens Workgroup, the LISS Science and Technology Advisory Committee, and the Management Committees of all three programs. Through our involvement in these programs, we continue to lend our time and expertise toward the restoration and protection of our District's major estuaries.

Helping to understand pollution sources in the Byram River

In early 2012, we wrapped up our study of ambient water quality on the Byram River. The study was funded by the Federal government through the American Recovery and Reinvestment Act. The Byram River is a 13-mile interstate waterway shared by **New York** and **Connecticut** and that empties into Port Chester Harbor, which is a sub-estuary of Long Island Sound.

We monitored 10 mid-stream stations six times: three during dry weather and three during wet weather. At each station, staff measured water temperature, pH, salinity, conductivity, as well as its content of dissolved oxygen. We also collected water samples, which were analyzed at our laboratory for pathogens (bacteria and viruses that cause infection or disease), metals, settleable solids, turbidity, and chlorides.



The lower Byram River serves as the border between NY and CT.

Data sets generated by the study were used by a subcontractor to develop and calibrate a water quality model for the Byram River watershed. Its implementation will help design specific flow and water quality monitoring programs; prioritize sub-basins that contribute significant loads of nutrients and pathogens; and identify green infrastructure projects for funding recommendations.

Improving management of stormwater on Long Island

In 2012, we successfully completed the project *Long Island MS4 Phase II Planning Program (LI-MS4 Planning)*, which was funded by a competitive Clean Water Act Section 604(b) grant from **NYSDEC**. The objective of this project was to provide planning assistance for MS4 stormwater management throughout Long Island. To do this, we supported the Long Island MS4 Planning Coordinator, whose responsibilities included coordination with regional and central **NYSDEC** offices and overseeing activities to meet §604b Water Quality Management Planning Activities priorities.

With a priority focus on sewers discharging to waterbodies covered by the Long Island Shellfish pathogens TMDL, the coordinator was instrumental in providing comprehensive stormwater management planning support through site visits, in-depth consultations, presentations, workgroups, the Long Island MS4 listserv, written feedback on stormwater program reports, and assistance with development of funding proposals.

The demonstrable success of the LI-MS4 Planning Program includes the gained insights and disseminated information, which prompted the revision and adoption of land use policies and the development of procedures to identify areas in need of strengthened septic system and MS4 oversight.

In addition, the LI-MS4 Planning Coordinator was instrumental in improving pollution prevention measures for facilities and operations, animal waste mitigation programs, low-impact-development policies, inter-municipal projects, storm sewer mapping, targeted MS4 TMDL outreach programs, turf management practices and procedures, and green infrastructure retrofit projects.

Introducing the field of water quality to the public

We conducted hands-on water quality activities at the City of Water Day on Governor's Island (**NY**) on July 14 and the Harlem River Festival on October 20. Participants of all ages came to learn from IEC staff about water quality and ecology by partaking in water quality monitoring, water sampling, and science experiments.

The 2012 Harlem River Festival took place on the land and in the water; a week of events centered on Roberto Clemente State Park in the Bronx, **NY**, which has docks providing access onto the water. Participants discovered the Harlem River through hands-on testing for dissolved oxygen, temperature, pH, salinity, and learned about water quality monitoring, and sampling and Harlem River history.

World Water Monitoring Day

World Water Monitoring Day (WWMD) is an international education and outreach program coordinated by the Water Environment Federation and the International Water Association. The goal of WWMD is to build public awareness and involvement in protecting water around the world by encouraging citizens to perform basic water quality monitoring of their local waterbodies.

The data collected during our Newtown Creek (**NY**) project provided an excellent example of local citizens monitoring waterbodies in their community. Data from all 9 sites on the creek that we monitored were entered into the WWMD database online and will be incorporated in its 2012 annual report. For more information on WWMD, visit: <http://www.wwmc.org>.



IEC out and about in the community

We also celebrated WWMD at two public events, and engaged participants to help us test the quality, and share our findings about the waterway via the World Water Monitoring Challenge where thousands of people from countries across the globe test their local waters to learn more about their quality.

Collaborating with water-monitoring colleagues

The **NJ** Water Monitoring Council serves as a statewide body to promote and facilitate the coordination, collaboration, and communication of scientifically sound, ambient water quality and quantity information to support effective environmental management. The Council addresses the biological, chemical, physical and ecosystem aspects of water monitoring, including surface and ground waters, freshwater, estuarine, and marine environments in **New Jersey**. Since it began in 2003, we have been an active member of the council, which includes such entities as **New Jersey** Department of Environmental Protection, U.S. Geological Survey, U.S. Environmental Protection Agency, **New Jersey** Geological and Water Survey, Delaware River Basin Commission, National Oceanic and Atmospheric Administration, **New Jersey** Pinelands Commission, Meadowlands Environmental Research Institute, and academic institutions.

In 2012, we served as the co-chair of the Emerging Contaminants Committee and helped plan the **NJDEP** Water Summit at which we moderated and presented.

Engaging the public in preventing floatables

International Coastal Cleanup (ICC) is a global event that was started by Ocean Conservancy in 1986. It is aimed at engaging citizens to remove trash and debris from beaches and waterways all around world, identify the sources of debris, and change the behavioral patterns that contribute to pollution.

Together with local community groups (Newtown Creek Alliance and North Brooklyn Boat Club), citizen volunteers, and local businesses (Waste Management, Action Carting Environmental Services, and DKN Ready Mix), we joined in the Ocean Conservancy's 2012 ICC. We organized two cleanups for local volunteers, including Newtown Creek and Dutch Kills in Queens and Greenpoint in Brooklyn, **NY**.

Participants not only picked up trash that endangers the health of waterways, but they also recorded each item on data sheets that we submitted to the American Littoral Society, which is the **New York** State coordinator for ICC. The resulting item-by-item, location-by-location Ocean Trash Index helps inform lasting solutions. Overall, the IEC-organized cleanup was successful, covering 0.75 miles of the Newtown Creek shoreline and collecting an estimated 110 pounds of garbage. Participants collected everything from tricycle wheels to windshield wiper fluid reservoirs; a very good start for what we hope to make our 1st debut in this annual event.

For additional information on **NY** beach clean-up sites and events, please visit: <http://www.littoralsociety.org/index.php/programs/nystatebeachcleanup>.

Assessing Newtown Creek with the College of Staten Island

Newtown Creek, a waterway spanning three and a half miles eastward from the East River along the border of western Queens and northern Brooklyn, **NY**, has a long industrial and maritime history. Once among the busiest industrial ports in the nation, Newtown Creek is now one of the most heavily contaminated waterways in the northeast and was designated a Superfund site by USEPA in 2010.

The IEC, in partnership with the Center for Environmental Science at the College of Staten Island, completed the project entitled *The Newtown Creek*



Community Education and Involvement Initiative: Stormwater Monitoring and Modeling. The project was funded by a grant from the Newtown Creek Fund of the New York City Environmental Benefits Program, which was administered by the Hudson River Foundation.

Together with Environmental Science master's students, we collected samples along Newtown Creek to determine the quality of the waters and how that quality is impacted by stormwater. The data from this collaborative effort will be used to identify parts of the creek that are most susceptible to stormwater pollution. The project expanded the scope of monitoring on the creek while promoting community involvement and participation through collaboration with the Newtown Creek Alliance.



Taking samples on Newtown Creek

Disseminating Information

We continued to provide regional information to state and federal agencies, citizen advisory committees, professional organizations, civic and citizen groups, and the media.

In 2012, we made large strides providing improved public access to our historic datasets and reports, which date back to the 1930s. We did this by scanning and posting these documents to our website and working with the library archivists at the College of Staten Island to catalog the documents.

We also maintain a wealth of reports and information on our website: www.iec-nynjct.org.

Transitioning to IEC District

On May 15, 2012, we entered into a Memorandum of Understanding with the New England Interstate Water Pollution Control Commission (NEIWPCC) and the NEIWPCC-IEC District was established. Under this agreement – requested by the IEC Commissioners and sanctioned by EPA – NEIWPCC will manage IEC administrative needs and provide programmatic and technical support. This temporary arrangement will allow us to examine and restructure the IEC to best serve its member states in the 21st century. During the time that this relationship is in place, our annual activities will be reported within NEIWPCC's Annual Report.

Contact Us

Office:

247 West 30th Street, Suite 6B
New York, New York 10001
Tele: (212) 967-1414
Fax: (212) 967-1430

Our Laboratory:

2800 Victory Boulevard, Building 6S, Room 106
(College of Staten Island- CUNY campus)
Staten Island, New York 10314
Tele: (718) 982-3792
Fax: (718) 698-8472

Website:

www.iec-nynjct.org

